



User guide and terms of guarantee



# Bicycle manufacturer

# **Development**

**b'Twin** designs and develops product ranges for all purposes. Our multidisciplinary team is driven by a passion for bikes harnessed to technical expertise. **b'Twin** products are created by our engineers, athletes and designers.

# **Innovation**

As a leading European manufacturer, we have established an innovative partnership with the **b'Twin** research centre so that you can enjoy your passion to the full.

# Design

Our design office ensures that our products satisfy your desires, just like **b'Twin.** They pay particular attention to ensuring that the technical features, comfort and look of our bicycles are perfectly suited to their practical use. Modernity, simplicity and passion guide our imagination.

# **Fatigue test**

Just like **b'Twin**, we are unswerving in testing our prototypes:

- more than 250 components tested to select 74.
- more than 50 prototypes tested during test assignments.
- more than 3000 hours of machine tests in our workshops.

# CONFORMS TO SAFETY REQUIREMENTS

Thank you for purchasing a **b'Twin** bicycle.

You have just bought a **b'Twin** bicycle, and to ensure your continuing happiness with it, please read this user guide: It provides all the information needed to correctly use, adjust and maintain your **b'Twin** bicycle.

It is important that you keep this guide.

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### **GENERAL WARNING**

Like any sport, cycling can cause injury and damage. By using this bicycle, you accept responsibility for this risk. **b'Twin** cannot accept any liability if the product is modified by the user. You should know and practice the rules of the Highway Code. Caring for and using your bicycle correctly are your responsibility and reduce the risk of accidents. Caring for your bicycle correctly will preserve its original usage and safety features. Cycling, in whatever form, is not without risk. Always wear a correctly fitted and adjusted helmet. Along with our technicians, we are committed to providing you with a fully assembled and correctly adjusted bicycle.

#### Supplement to the user's guide:

If your bicycle is equipped with specific components (for example: adjustable suspension fork, hydraulic brakes, frame shock absorbers, adjustable stem), your retailer will also give you the specific instructions for them.

#### Maintenance, adjustment and repair:

To ensure that your bicycle is maintained properly and safely, we recommend that you have it serviced and repaired by an authorised **b'Twin** after-sales service provider.

#### Your b'Twin retailer:

Other than this guide, your main source of information and assistance is your b'Twin store. Your retailer is your first contact for enquiries relating to your bicycle's maintenance, adjustment, use and quarantee.

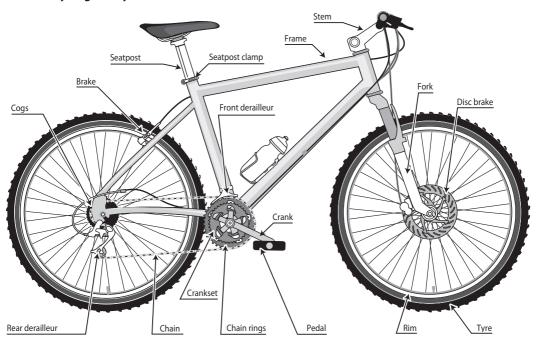
#### Warranty

This guide also contains your bicycle's guarantee conditions.

#### NR.

Bicycles and bicycle components change all the time, so it is impossible to produce an exhaustive guide. We recommend that you consult a **B'Twin** technician or retailer should you need further information.

#### Mini bicycle glossary:



The safety parts (front fork, handlebars, handlebar stem, seat post, brake pads, brake shoes and disk brake pads, brake cable outer casing, hydraulic brake line, calipers, brake disks, brake levers, chain, pedals and cranks, bottom bracket axle and wheel rims) must be replaced with original parts. Tyres and inner tubes must be replaced with compatible parts.

**WÂRNING:** Like any mechanical component, a bicycle is subject to significant stresses and strains. The different materials and components can react differently to use or to fatigue. If a component's expected life span is exceeded, it may break suddenly, thus risking injury to the cyclist. Cracks, chips and discolouring in areas subject to great stresses show that the component has exceeded its lifespan and should be replaced.

# A BICYCLE FOR EVERY PURPOSE, AND ITS LIMITS

A mini guide to help you choose correctly! Define your discipline precisely.

#### **General usage restrictions:**

Your bicycle is not designed to be used:

- in sand.
- in the water (the hubs and bottom bracket should not be submerged).
- in a salty environment (e.g.: on the beach).

#### Storage conditions

Your bicycle is not designed to be stored outdoors for prolonged periods (maximum 12 hours). It should be stored in a dry, temperate place (ffrost-free) away from corrosive products: marine environments (e.g.: the bridge of a ship), herbicide, acids, solvents, batteries, etc

# The MTB

# Types of bicycle and their uses

**The MTB:** These are sporty, versatile bicycles, suitable for going off-road and exploring nature. Full suspension Loisir MTBs are ideal for forest or city riding on good roads. Full suspension Loisir MTBs provide extra comfort. Sport and Competition MTBs are designed for all terrains. The difference lies in the weight, the quality of the drive train and the suspension. Full suspension MTBs will allow you to ride for longer with less tiredness and more control. They are ideal for descents, but are also comfortable on technical climbs. This bicycle, and particularly its braking system, is designed for a maximum load of 100 kg (220 lbs). For example, for a bicycle weighing 13 kg (29 lbs and carrying 5 kg (11 lbs of luggage, maximum user weight is 100 - 13-5 = 82 kg (181lbs).



The HYBRID BIKE: This is the ideal compromise between the town bike and the mountain bike. It is comfortable and well-equipped, and is ideal for riding alone, as a family or with friends, on small country roads or off-road trails. The wheels are narrower than an MTB's wheels and may be of a greater diameter; so it is more comfortable on tarmac roads. It is ideal for bike rides! This bicycle, and particularly its braking system, is designed for a maximum load of 100 kg (220 lbs). For example, for a bicycle weighing 13 kg (29 lbs and carrying 5 kg (11 lbs) of luggage, maximum user weight is 100 - 13 - 5 = 82 kg (181 lbs).

#### The URBAN BIKE:

**ELOPS OR CITY:** Fully equipped and comfortable, it is ideal for getting around in total safety on town and city roads, in the middle of traffic. You stay clean thanks to its mudguards and chain guard. It is the supreme city bike. **TRIBAN ROAD:** A bike designed for urban peri-urban road sports. Positioned between the racing bike and the traditional town bike, this responsive bike is designed for regular sporting middle distance rides on the road. This bicycle, and particularly its braking system, is designed for a maximum load of 100 kg (220 lbs). For example, for a bicycle weighing 13 kg (29lbs and carrying 5 kg (11 lbs) of luggage, maximum user weight is 100 - 13 - 5 = 82 kg (181 lbs).



The FOLDABLE BIKE: Specifically designed to cope with storage problems, the foldable bike is the ideal bike for getting around town. It is a sturdy, multi-purpose and well-equipped bicycle. Easy to store: the foldable bike will take you where you want to go, "door to door". Its compact size makes it easy to store at home or at the office reducing any risk of theft. You'll forget it's there. Multiple transport modes: the foldable bike is designed to help you getting around town over long distances as a complementary mode of transport to the car, train, public transport allowing you to reduce any breaks in your route and save time. "the problem with public transport is that it never takes you exactly where you want to go".

it never takes you exactly where you want to go". Journey: the foldable bike will follow you everywhere: caravan, boat, boot of a car. Stored in a small area, it's the ideal companion for your itinerant leisure activities.



**The ROAD BIKE:** This is a light bike for fitness or competition use. The frame geometry is suited to each purpose: fitness objective: stay in shape by using a light bicycle and gears adapted to your power, sport objective: discover

cycling alone or in groups on hilly rides. This bicycle's frame geometry and components will give you a good ride, competition objective: Take your training to a new level to work on your physique, and take part in competitions using equipment approved at the highest level of competition. This bicycle, and particularly its braking system, is designed for a maximum load of 100 kg (220 lbs). For example, for a bicycle weighing 13 kg (29 lbs and carrying 5 kg (11 lbs) of luqqaqe, maximum user weight is 100 - 13 - 5 = 82 kg (181 lbs).



The road bike

**The BMX/SUBSIN:** Specifically designed for acrobatic use. "Street" for stunts in town or a skate park. "Dirt" for stunt jumps on dirt tracks. "Flat" for stunts on the ground. "Race course" for off-road circuits with bumps. We recommend that you carefully identify your discipline before taking the plunge! This bicycle, and particularly its braking system, is designed for a maximum load of 100 kg (220 lbs). For example, for a bicycle weighing 13 kg (29 lbs and carrying 5kg (11 lbs) of lugqage, maximum user weight is 100 - 13 - 5 = 82 kg (181 lbs).

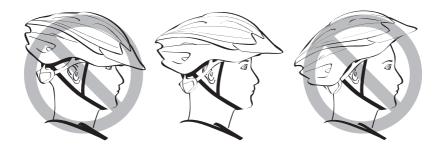


**The children's bike 14":** A bicycle designed to allow children to pedal in complete safety. This learning bicycle is easy to use, solid and fun, and is aimed at children aged 3 to 5 (90-105cm). It is a learning bicycle and must not be used on the public highway. See the specific instructions supplied with the bicycle.



The children's bike (16" to 24"): Designed for children's very specific needs. Whether your child is just learning how to pedal or is already very comfortable on a bicycle, this bike is for all uses, by age group. It is a solid, easy to use, fun and well-equipped bicycle. It is the ideal partner for learning and having fun in complete safety. These bicycles, and particularly their braking systems, are designed for a maximum weight of 45 kg (99 lbs) for the 16", 55 kg (121 lbs) for the 20" and 70 kg (154 lbs) for the 24". For example, for a 16" bicycle and accessories weighing 10 kg (22 lbs), carrying 1 kg (2 lbs) of luggage, maximum user weight is 45 - 10 - 1 = 34 kg (75 lbs).

# RECOMMENDATIONS FOR CYCLING IN COMPLETE SAFETY



- Always carry out a thorough check before riding. Read the «safety checks before use» section carefully.
- Always wear a helmet when you ride to protect your head in the event of a fall.
- Ride with both hands on the handlebars.
- Ride in the direction of the traffic, never against it.
- Never hold on to a car or any other vehicle.
- Control your speed, avoid moving from side to side.
- Carrying baggage may reduce your visibility or control of the bicycle and cause you to fall.
- Respect the local Highway Code, particularly with regard to lights and bicycle bells and horns.

# WARNING! Two people should never ride on a bicycle (except tandems)

• Never ride at night or in bad weather without lights.

You must be visible to motorists and motorcyclists:

- Wear light-coloured, reflective clothing, and turn your front and rear lights on.
- You must have a light and a reflector at the rear of your bicycle.
- You must also have a light and a reflector at the front of your bicycle.
- Side reflectors must be placed on the wheels.
- When cycling in the rain or on wet roads, be careful because braking distances can increase and grip decreases significantly.
- Wear protective equipment and clothing, such as gloves and glasses.
- Do not wear loose clothing which may get caught in the wheels.

**NB:** all our bicycles are sold with front and rear lights, as well as rear reflectors and side reflectors fitted to the wheels (except in certain countries).

# Using paths: responsible behaviour and code of good conduct.

Do not take access to paths for granted.

The permission to use paths over the coming years will depend on how you behave during your next outing:

- Stick to the paths.
- Be respectful to pedestrians and horse-riders.
- Keep skidding to a minimum.
- Respect flora and fauna.
- Avoid muddy areas.

#### Here are a few rules for responsible trail riding:

- Avoid leaving visible tracks
- Do not frighten animals
- Keep control of your bicycle
- · Look in front of you
- Always let others pass
- Take all your rubbish with you



#### WARNING! when riding with children

- b'Twin recommends that helmets are worn and strongly advises that child seats and all frame accessories are fitted by qualified, experienced technicians. If you intend to fit a child seat yourself, we recommend that you check with our retailers that baggage racks and child seats are safely compatible.
- Be careful when riding with a child seat, as it adds weight to the rear and raises the bicycle's centre of gravity, making balance and turning more difficult.
- Children must always wear a helmet when riding in a child seat or in a trailer. Please note that wearing a helmet is a legal requirement in many countries.
- Wheels attract children's attention and present a serious risk to young children's fingers! If children place their fingers between the spokes or between the chain and the chain rings... they risk trapping their fingers and/or injuring themselves.
- With children's bicycles, responsible adults must ensure that the child knows how to use the bike, especially the brakes.

#### Maintaining and controlling your bicycle:

The frame, the forks and all the components must be regularly checked by our **b'Twin** After-Sales Service team to detect the signs of wear and/or potential deterioration (cracks, corrosion, damage...).

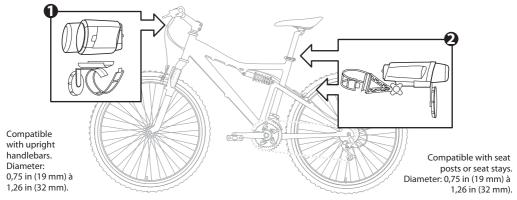
These are important safety checks which help avoid accidents and physical injury and ensure the lasting health of your bicycle.

#### Warning:



- MTB descents should be practised safely.
- Ensure that the bicycle is suitable for the purpose (descents, cross-country, extreme freeriding...).
- Ensure that the bicycle is in a perfect working order.
- To minimise the risk of accidents: wear a helmet, wear suitable protection, control your bicycle and... be careful!

# Fitting lights: (does not apply to dynamo-type lights)



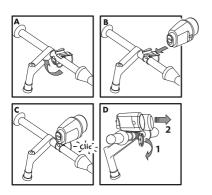
# 1 Front light

#### A-B-C: Fitting

Pour un serrage optimum privilégier le 1er cran de l'élastique.

#### D: Removal

Press the reflector (1) to push the light forwards (2).



### Replacing the batteries:

When the red wear indicator lights up, change the batteries. Batteries required: Two 1.5 Volt LR14 alkaline batteries. To open, press on one of the chrome-plated strips (1) and open by turning the front of the light (2). Battery direction is shown on the bulb holder and on the inner contact.

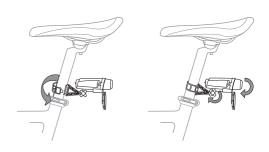
Some products may be equipped with different but similar lighting.

# **2** Rear light

#### Assembly

- The first hole is for fitting to the seat post.
- The second hole is for fitting to seat stays.

Position the rear light horizontally using the adjustment wheel.



#### Replacing the bulbs:

Bulb required: 2.4 Volts 0.5 A Krypton type









#### Fitting dynamo-type lights

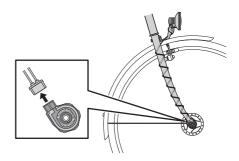
#### **Hub dynamo:**

Before removing the front wheel, disconnect the dynamo's electric cable.

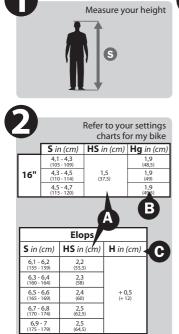
#### Replacing the bulbs:

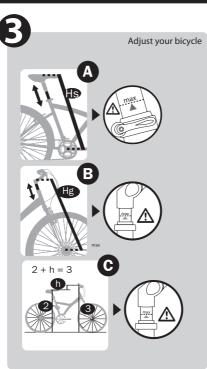
**Bulbs** required:

- 6 Volt / 2.4 Watt Krypton type bulb for Elops 3 and Elops 5.
- 6 Volt / 2.4 Watt halogen bulb for the b'Twin Pack and Elops 7.



# HOW TO ADJUST YOUR POSITION ON THE BICYCLE





For advice on making more precise adjustments to your bicycle, go to the **b'Twin.com** website.

#### **Directions for use:**

Refer to the charts appended to the end of these instructions p 23.

#### Adjusting the seat:

The minimum seat height is the height when the seat is moved down as far as it will go and once the clamp is locked.

#### Practical information

Depending on the terrain you are travelling on, seat height can be modified:

- On flat ground or when climbing, the seat should be in a high position for greater efficiency.
- When travelling downhill, the seat should be slightly lowered to improve bicycle control and to make it easier to get over obstacles.



#### PLEASE NOTE THE INSERTION LIMIT!

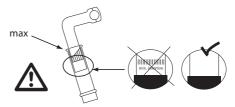
For your safety, the saddle shouldn't be pulled out further than the mark indicated on the seat post: minimum d'insertion.



#### Adjusting handlebar height:

#### **Ouill stem:**

Please note the quill stem insertion limit:
For your safety, the stem should not be pulled out further than the mark shown on the stem: "min. insertion".



#### Headset stem:

All MTBs with aheadset stems are sold with setting rings. The handlebar height suggested in the shop is the highest. If you would prefer to raise the handlebar position, you will need to choose a higher stem.

#### Adjusting aheadset stems on your bicycle:

To reduce the height you need to use appropriate tools (T-bars 5 or 6 depending on the model - see tools chapter).

- Completely unscrew screw A, then the two screws (B) on the stem.
- Remove the stem.
- Take 1 or more setting rings
- Replace the stem.
- Replace the setting rings above the stem.
- Tighten up screw A and tighten the screws (B).

#### Checking that aheadset stems are properly fitted to your bicycle:

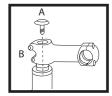
To check the adjustment of your stem, close the front brake and rock forwards and backwards on your bicycle.

If you feel any movement in the steering system, tighten up screw A.

Secondly, check by raising the front of the bicycle and turning the handlebars from left to right:

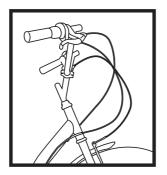
if you have any difficulty turning the handlebars, tighten up screw A.

If this procedure seems too complex, please ask the staff in the workshop at your nearest shop.



#### Checking that the handlebars are properly mounted in the stem

On Elops (1, 3, 5 and 7), b'Twin Pack and BMX bicycles, the handlebars are set at a significant angle. The angular position of the handlebars should not be modified by more than 10° compared with the assembly position (see pictures below).





# **SAFETY CHECKS BEFORE USE**

- Adjusting the seat post and seat: check that the whole bicycle is solidly assembled and that the seat is solidly clamped in the frame, respecting the minimum insertion point indicated on the tube.
- Tightening the stem: before each use, check that the stem is properly adjusted using appropriate tools (see tools chapter) and tighten to the torque indicated. Check the value in the stem/steering system torque table.
- Tyre inflation, dimensions and mounting direction: Inflate your tyres to the correct pressure, referring to the pressure range indicated
  on the side of the tyre by the manufacturer; your tyre's resistance to wear depends on it. Mount the tyre in the direction indicated
  on the side (the arrows indicating the rotation direction).
- Always tighten fasteners to the correct torque. Bolts that are too tight can stretch and deform. Bolts that are too loose can move and fatigue. Either mistake can lead to a sudden failure of the bolt, causing you to lose control and fall.
- WARNING: An insufficiently tightened stem clamp bolt, handlebar clamp bolt or bar end extension clamping bolt may compromise steering action, which could cause you to lose control and fall. Place the front wheel of the bicycle between your legs and attempt to twist the handlebar/stem assembly. If you can twist the stem in relation to the front wheel, turn the handlebars in relation to the stem, or turn the bar end extensions in relation to the handlebar, the bolts are insufficiently tightened.





Before each outing, you should check that there is no movement between the different parts of the assembly!

Note that 14.5 PSI = 1 BAR and 1 BAR = 1 kg/cm = 100,000 Pa

- Fitting the wheels: Read the section on using quick connectors.
- How front and back brakes work: Refer to the chapter on the braking system entitled "checking the brakes".
- Fitting the pedals: Refer to the chapter entitled "mounting the pedals".
- How the lights work:



The lighting system is part of your bicycle's safety system and must be fitted to your bicycle. Check that your lighting systems are working and that the batteries are sufficiently charged before setting off. Used batteries contain metals which are harmful for the environment (Hg: mercury, Cd: cadmium and Pb: lead): they can be taken to our shops to be disposed of appropriately; do not throw them away with household waste. Batteries should be collected separately.

The "crossed-out bin" symbol means that this product and the batteries it contains must not be thrown away with general household waste. They are subject to a specific type of sorting. Please take the batteries and your unusable electronic product to an authorised collection point for recycling. This treatment of your electronic waste will protect the environment and your health.



#### Warning about automatic pedals:

Automatic pedals are tricky to use and require a period of familiarisation to avoid falling off: Engage and disengage your shoes in the pedals before setting off. The interface between the cleat and the pedal can be affected by a number of factors including dust, mud, lubrication, spring tension and general wear.

When engaging and disengaging, check how the mechanism works and familiarise yourself with how the pedals feel.



#### Warning about the frame and fork suspensions:

Refer to the instructions supplied with this manual. Before every ride you must check that there is no movement between any of the different parts of the assembly. If there is, only consult qualified personnel and/or your nearest shop, in order that they can carry out the necessary adjustments.



Warning about fork direction (position, brake, etc...):



## ADJUSTMENTS AFTER SEVERAL HOURS' USE

Some parts of your bicycle will require slight modification after 2 to 3 hours' use, mainly in order to make final adjustments to the components. Derailleur cable tension is to be set: the housings will settle down, necessitating new derailleur and brake tensions. (See chapter on adjusting derailleur tension). With single-speed bikes, pedalling may seem difficult at first. This is completely normal, and after a few hours' use pedalling will become easier: the chain loosens naturally. After your first use of a bike with a 6-piece bottom bracket, you will need to tighten up the bottom bracket. To do this, please consult a qualified person and/or our technical workshops.

# **TAKING GOOD CARE OF YOUR BICYCLE**

Your bicycle needs a minimum amount of maintenance and regular services. How often it needs to be serviced depends on bicycle type (city, racing, mountain), how often you use it, and how you use it. Your bicycle's maintenance depends on how you use it:

- City and recreational bikes, racers and BMXs require regular maintenance: Oil the chain regularly, brush the cogs and chain rings, periodically place a few drops of oil in the brake and derailleur cable housings and remove dust from the brake pads.
- MTBs should be cleaned after riding on muddy or dusty terrain: frame, wheels, chain, chain rings and cogs; then lubricate the chain using the oil specifically designed for bike drive trains. Should you detect any deterioration in parts of your bicycle, please replace the parts concerned.
- Check the tires for excess wear, cuts or bruises. Replace them if necessary.
   Check the wheel rims for excess wear, dings, dents and scratches. Consult your dealer if you see any rim damage.



# **REGULAR MAINTENANCE AND CHECKS**

Here is an idea of the type of maintenance to carry out on your bicycle, beginning at the date of purchase: how often you perform the maintenance may significantly increase if you use your bicycle intensively in hostile environments (mud, sand, water, etc).



- · Full tightening-up of the bicycle
- · Tightening and/or alignment of wheels
- Drive train adjustment (if necessary)















- Lubrication
- · Change brake pads or disk brake pads







- · Change bottom bracket
- · Change cables and brake and derailleurhousings

• Change drive train (chain rings, chain andfreewheel) · Change tyres and inner tubes







- · Change brake pads or disk brake pads







**BMX/SUBSIN** 



HYBRID BIKE







vears

- · Change bottom bracket
- · Change cables and brake and derailleurhousings



HYBRID BIKE



Change drive train

CITY



**CHILDREN'S** 





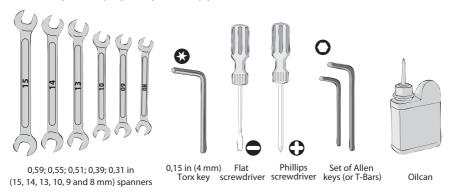


Warning: Intensive use and/or use in extreme conditions (water, mud, etc) may greatly reduce the lifespan of components subject to wear and tear (ball bearings, chain, etc) thus requiring more frequent maintenance.



# **NECESSARY TOOLS**

In order to assemble, adjust and repair your bicycle correctly, you will need to have some basic tools:



These tools are essential for carrying out the different stages of bicycle assembly. You will find them useful for making all the adjustments described in this manual.

#### bitwin advice

When riding and trekking by bike, we recommend you have at least the following equipment:

- · a chain tool and a snap link designed for the bicycle's original chain model
- an inner tube compatible with your tyres and wheel rims
- · a tyre removal kit
- · a multifunctional tool featuring at least the tools listed above
- · a bicycle pump



## **CLEANING**

Your bicycle can very easily be cleaned with a sponge, a hose or soapy water. The gear system components can be cleaned with a small brush.



## BE CAREFUL with high pressure cleaning systems!

Most importantly, do not use a steam jet: grease may liquefy inside mechanical components, your bicycle will be immobilised indefinitely, and ball bearings and the gear system will completely seize up. Also avoid overly powerful jets, which may damage the paintwork on your frame: do not point the jet at any mechanical parts. To avoid corrosion of the components, dry any remainingwater and re-lubricate moving parts (derailleurs, chain, brake and derailleur cables).



## **LUBRICATION**

It is necessary to lubricate components to maximise your bicycle's performance and lifespan, and to avoid component corrosion. Use special chain and cable lube for the cables and drive train parts. For the chain, it is better to use a specific oil. Immediately after washing: dry and oil gear system components (derailleur, shifter), suspension parts, brake levers, caliper and brake mountsand the chain. Check the chain and replace it if necessary (see the section entitled "maintenance checks"). To ensure proper sealing, grease the seatpost and headset sufficiently. Cartridge-style bottom bracket shells do not need maintenance: they are sufficiently watertight to keep them greased for the entire lifespan of the bracket. However, to avoid noises it may be necessary to grease the points where the frame and the bracket meet.

#### bitwin advice

We recommend that you use OUR SELECTION: Degreasing kit and Teflon oil, grease.



**Warning:** All these operations should be undertaken regularly if you use your bicycle in a salty environment and before prolonged storage.



# **TIGHTENING TORQUES**

Tightening torques for the assembly of the following components (in Nm) (\*):

Type of bicycle	Stem/ Handlebar	Stem/ fork	Saddle/ seat post	Seat post/ frame	Front wheel/ frame	Back wheel/ frame	Pedals/ cranks	
CHILDREN'S (14", 16")	NOT APPLICABLE	18	NOT APPLICABLE	Quick-release or 10/12	22/30	22/30	30/45	
JUNIOR (20", 24")	1 screw: 16 2 screws: 12	1 screw: 18 2 screws: 12	24	Quick-release	22/30 or Quick-release	22/30 or Quick-release	30/45	
BMX/SUBSIN	10	12	16 WIPE + SUBSIN TRIPLE : 6	Quick-release or 8/10	35/40	35/40	30/45	
CITY AND COUNTRY (b'Twin, Triban Trail)	1 screw: 16 2 screws: 12 4 screws: 7	1 screw: 18 2 screws: 12	16 b'Twin 3 : 24	Quick-release	Quick-release	22/30 or Quick-release	30/45	ا بُرِينَ
URBAN Elops	16	18	20	Quick-release or 8/10	Quick-release	22/30 or Quick-release	30/45	] pol
URBAN Elops electric	16	18	16	Quick-release	Quick-release	Quick-release	30/45	;; C
OFF-ROAD RECREATIONAL	7	7	17 RR 5.1 : 24	Quick-release	Quick-release	Quick-release or 22/30 nut	30/45	
OFF-ROAD SPORTS	6	7	17	Quick-release	Quick-release	Quick-release	30/45	
COMPETITION MTB	5	7	8	Quick-release	Quick-release	Quick-release	30/45	
FITNESS AND SPORTS ROAD	12	10	16	8/10 aluminium frame 5/7 carbon frame	Quick-release	Quick-release	30/45	1 2 2 2 2 2 2 2
COMPETITION ROAD	6	6	15	8/10 aluminium frame 5/7 carbon frame	Quick-release	Quick-release	30/45	"Oberology April 20 Obl.   " April 4 de
FOLDABLE BIKE	6/9	20	20	Quick-release	25/35	25/35	35/40	* Eor 255



# **REMOVING - REPLACING A WHEEL**

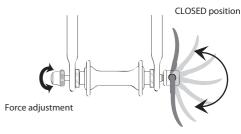
#### 1 - Quick-release wheels

#### Removal

- · Open the caliper (see the brakes section).
- Open the quick-release lever (see the following section on using quick-release).
- For the front wheel: Unscrew the adjusting nut then remove the safety washer (if there is one).
- · Remove the wheel.

#### Replacing the wheel

- Place the wheel in a central position between the frame dropouts and the fork.
- If necessary, replace the safety washer.
- Tighten the adjusting nut.
- · Close the quick-release system.
- Close the caliper (see the brakes section).



**OPEN** position

#### 2 - Traditional (non quick-release) wheels

#### Removal

- Open the caliper (see the brakes section).
- Undo the wheel nuts using a suitable spanner.
- For the front wheel: where applicable, remove the safety washer.
- · Remove the wheel.

#### Replacing the wheel

- Place the wheel in a central position between the frame dropouts and the fork.
- If necessary, replace the safety washer.
- Tighten the nuts to the appropriate torque.
- Close the caliper (see the brakes section).

Comment on the rear gear wheel:

Position the chain on the smallest cog to make it easier to replace the wheel.

#### 3 - Wheels with a hub brake

Removing and replacing this type of wheel is difficult, so we recommend that you consult one of our technical workshops. Nevertheless, you may follow the procedure below at your own responsibility:

#### Removal

- Disconnect the brake as in the diagram.
- Undo the wheel nuts using a suitable spanner.
- · Remove the wheel.

#### Replacing the wheel

- Place the wheel in a central position between the frame dropouts and the fork.
- Tighten up the nuts.
- Reconnect the brake as in the diagram.

#### 4 - Wheels with a coaster brake

Removing this type of wheel is difficult, so we recommend that you contact one of technical workshops. Nevertheless, you may follow the procedure below at your own responsibility:

#### Removal

- Disconnect the frame dropout (1) by unscrewing the nut (2) using a suitable spanner.
- Then follow the instructions for "Non quick-release wheels".

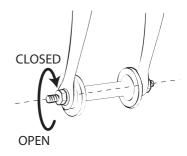
#### Replacing the wheel

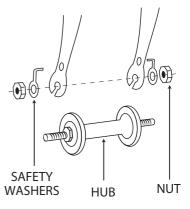
- Reconnect the frame dropout (1) by unscrewing the nut (2) using a suitable spanner to a torque between 6 and 9 Nm (inclusive).
- Then follow the instructions for "Non quick-release wheels".

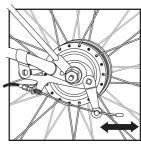
#### 5 - Wheels with an internal gear hub

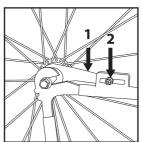
Removing this type of wheel is difficult, so we recommend that you contact one of technical workshops. However, you will find removal/replacement instructions in the specific instructions supplied with your bicycle.

**IMPORTANT:** Before using your bicycle, ensure that the wheel is correctly mounted.







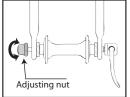


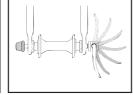


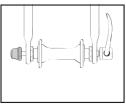
# **USING QUICK-RELEASE SYSTEMS**

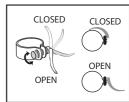
Quick-release maintains the wheels in position inside the frame and fork. For this to be effective, it is necessary to set the adjusting nut (1) so as to produce a sufficient closing force on the quick-release lever (2) of at least 12 daN (approximately 26,45 lb (12 kg)). To increase the closing force: turn the adjusting nut clockwise (anticlockwise to reduce the force).

Please note: in case of doubt, consult one of our in-shop technicians.









1 / Set the adjusting nut

2 / Activate the quick-release lever (strain 26,45 lb (12 kg))

3 / It's finished!

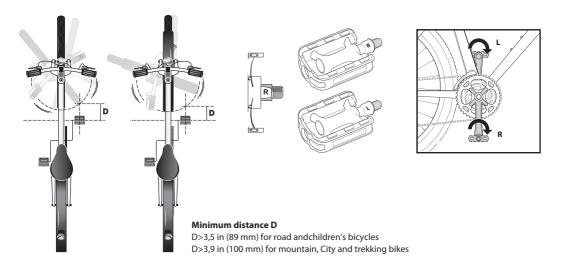


## **MOUNTING THE PEDALS**



Warning: Do not try to tighten the pedals by hand, use a suitable spanner.

- 1 / Identify your pedal: Check the letter on the pedal: "L" or "R".
- 2 / The pedal marked "R" is the right-hand pedal. Turn it clockwise to attach it to the crank.
- 3/ The pedal marked "L" is the left-hand pedal. Turn it anticlockwise to attach it to the crank.
- 4/ Adjusting shoe and pedal clamping systems: Please see your manufacturer's instructions.



**Important:** when replacing your pedals, wheels, tyres, mudguards or cranks, the minimum clearance between the edge of the wheel or mudguard and the pedal spindle must be greater than the distances indicated above.



## **BREAKING SYSTEM**

#### 1 - Using the brakes

To slow the bicycle down or stop it: use the back brake first and then lightly and gradually use the front brake. An overly rapid and excessive braking movement may cause the front wheel to jam and cause a dangerous fall.

#### Using disk brakes:

after braking, the disks and calipers may become very hot and cause burns in the event of contact. After braking, wait 30 minutes before touching the brake or caliper.

Please note: braking distances may increase in wet conditions.

#### 2 - Checking the brakes

Before using the bicycle, check that the brakes are working correctly:

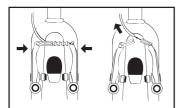
- · When fully depressed, the brake levers must not touch the handlebars.
- Brake cables and housings must not be damaged.
- When adjusting the cable, the tightening torque to use is between 5 and 7 Nm. (cable to caliper assembly).

NB: if one of these conditions is not fulfilled, contact one of our technicians, who will return the system to normal.

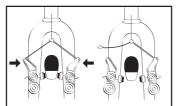
#### **Soo** Warning

- The rims, disks and pads must never be treated with a lubricant or another greasy substance. If necessary, clean using an anti-static polish. You are advised not to use solvents (which may damage the markings and the paintwork).
- For disk brakes and road bike brakes, consult the instructions in the manufacturer's instructions for any modification or contact your nearest workshop.

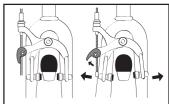
#### For the following types of brake:



**V-Brakes**, the metal pipe of the brake cable should be completely inserted into its housing on the caliper.



**Cantilevers,** the bridge cable with quick-disconnect fastener must be correctly mounted.



**Calipers,** the brake lever spacer must be in the closed position.

#### ⚠ Mechanical or hydraulic disc:

You should be careful when using this type of brake, which requires a bedding-in period of around 30-50km (depending on type) to reach their optimum level of performance.

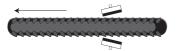
#### 3 – How should the brakes be adjusted? Brake pads

1/ Check the pad is aligned with the edge of the rim





- 2/ Check the distance of the pads from the rim (1 to 3mm for optimum braking).
- 3/ Always distance the rear of the pads slightly from the rim.

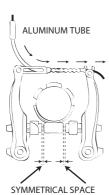


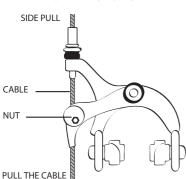


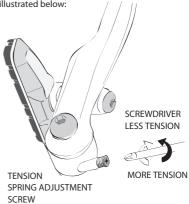
Warning: The pads must under no circumstances touch the tyres.

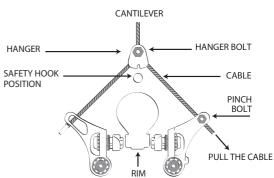
#### 4/ Check that the V-Brake or Cantilever calipers are symmetrical

Check that the "left and right" caliper return springs are balanced as illustrated below:



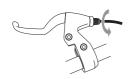






#### Adjusting cable tension

V-Brakes or Cantilever brakes



# Brake lever: Back brake



#### Caliper brakes (U-type)



#### **Brake maintenance**

In order to maintain your bicycle's braking performance, it is important to perform maintenance on the braking system at the intervals described in the chapter entitled

"regular maintenance and checks":

- Replacing worn disk brakes or pads: the surface markings are no longer visible or the metal structure is under 0,07 in (2 mm) from the rim or from the disk.
- The position of mechanical disk brakes must be adjusted regularly as they wear.
- · Replacing brake cables and housings.
- Cleaning hydraulic brake circuits.

IMPORTANT: This safety procedure is difficult, so it is better to contact one of our technical workshops to carry out this type of procedure. Nevertheless, here are a few pointers for users who wish to carry out the procedure themselves.

NB: For disk brakes, please refer to the manufacturer's manual.

#### Replacing brake pads.

- 1/ Open the calipers.
- 2/ Remove the pad using a suitable spanner (Allen key or flat key depending on the model).
- 3/ Replace the pad, being careful to follow the assembly sequence of washers and spacers carefully.
- 4/ Tighten up the pad using a suitable spanner, using a tightening torque of between 6 and 9 Nm.

NB: some pads have a mounting direction: the arrow should face the wheel's rotation direction when the bicycle is moving forwards.

#### Replacing disk brake pads:

Replace the worn parts with the correct replacement parts obtained from qualified sources.

#### Remplacer les freins à tambour :

Replace the worn parts with the correct replacement parts obtained from qualified sources.

#### Rim wear:



Warning to users:

Bicycles with brakes which connect the surface of the rim to the braking system are subject to wear of the rim wall at the braking surface, as a result of the braking forces and the friction suffered by the rim at this surface.

We recommend that users pay particular attention to this wear, because a reduction in the thickness of the rim wall can cause tyre maintenance defects and injury.

Regularly check that the internal and external surfaces of the rims show no signs of cracking or wear. Do not use wheels showing signs of advanced wear of the rim's braking surface.

Can be found on this type of rim.



# **USING THE GEAR SYSTEM**

Changing gear: continue to pedal but not too hard, and move the gear shifter (lever or rotating shifter) until the chain is in place on the selected chain ring or cog. Each position of the shifter corresponds to a chain position on the cogs.

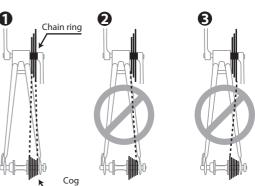
- If the chain does not move up onto the cog: you can try "overshifting" by pushing the lever slightly beyond position without moving it into the next position.
- => If this does not work: you will need to adjust the cable tension (cf. chapter "adjusting the gear system").
- If the chain does not move down quickly, see the chapter entitled "adjusting the gear system". The chain should move smoothly between cogs.



#### IOP Warning:

In order that the gear system functions correctly and not to shorten the lifespan of its parts (chain, freewheel, pedals):

- · Avoid heavy, aggressive gear changes.
- Avoid crossing the chain (by using the large cog and the large chain ring or the small cog and the small chain ring)
- If the chain is crossed (Diagram 2), it may be in contact with the front derailleur.





## ADJUSTING THE DERAILLEUR GEAR SYSTEM

These procedures are also difficult: we recommend you consult one of our qualified technicians.

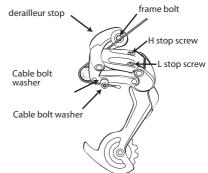
NB: Problems when changing gear are very often linked to the derailleur cable tension; adjusting the derailleur travel

inds: Problems when changing gear are very often linked to the derailleur cable tension; adjusting the derailleur trave is much less common.

#### 1 – Adjusting rear derailleur movement

So that the chain does not leave the cogs (in the wheel spokes or between the rear dropout and the cogs), it is important to adjust the derailleur travel using the H and L stops:

- the H screw enables you to adjust the lower stop (small cog side): Undoing this screw moves the chain further out towards the small cog
- the L screw enables you to adjust the top stop (large cog side):
   Undoing this screw moves the chain further out towards the large cog



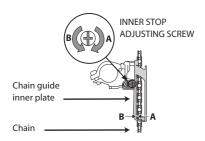
#### 2 - Adjusting front derailleur movement

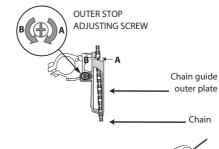
#### Adjusting the inner stop

By turning the outer screw of the front derailleur in direction A, the derailleur range moves towards to the smallest chain ring; by turning it in direction B, it moves away from the large chain ring. Then adjust so that the clearance between the chain guide inner plate and the chain is between 0 and 0,2 in (0 and 0.5 mm).

#### Adjusting the outer stop

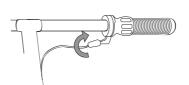
By turning the inner screw of the front derailleur in direction A, the derailleur range moves away from the smallest chain ring; by turning it in direction B, it moves towards the large chain ring. Then adjust so that the clearance between the chain guide outer plate and the chain is 0 and 0,2 in (0 and 0.5 mm).





#### 3- Adjusting derailleur tension







Adjusting the cable tension creates a link between a position on the gear lever and a position in the gear system. Unscrew or tighten the cable tension screw at the lever or at the rear of the derailleur so that each lever position corresponds to a cog:

If the chain does not move down every time you shift the lever.

- loosen the cable by turning the cable tension adjusting screw clockwise.
- => If the chain does not move up every time you shift the lever.
- tighten the cable up by turning the cable tension adjusting screw anticlockwise.



# ADJUSTING INTEGRAL GEAR SHIFTERS IN THE HUB

(NEXUS SIMANO type)

Adjusting this type of gear shifter is very simple: refer to the specific instructions supplied with this manual.



# **ADJUSTING SINGLE SPEED GEARS**

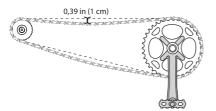
(SPECTRO SRAM type)

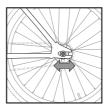
#### ADJUSTING CHAIN TENSION

For single-speed bikes or bikes with integral gear shifters, you will need to have the chain tension checked (it loosens over time). Excessive tension can impair performance and reduce its lifespan (hard pedalling).

Insufficient tension can cause the chain to come off frequently. Read the section on single-speed bikes carefully. A correctly adjusted chain has a maximum vertical travel of 0,39 in (1cm).

You adjust the tension by moving the rear wheel forwards or backwards in the frame dropouts.







## **ADJUSTING SUSPENSION**

Refer to the fork and suspension adjustments recommended by the manufacturer; see specific instructions supplied with this manual.

# **ASSEMBLING ACCESSORIES**

We recommend that you follow the specific assembly instructions supplied with the accessory.



- Check with a **b'Twin** retailer that accessories to be fitted to your bicycle are compatible with it.
- Check that all the elements of your bicycle work correctly when the accessory is fitted. The bicycle may respond differently when accessories are fitted.
- Be particularly vigilant with accessories which may hinder wheel rotation, interact with a suspension frame in full travel or change the shape of the frame using tightening devices.
- Racing bikes, full suspension MTBs and bicycles only equipped with disk brakes are not designed for child seats.
- The child seat may significantly affect your bicycle's stability. It is not permitted to attach a child seat directly to the bike's seat post. Check that under no circumstances will any part of the child's body or clothing (laces, safety belts, etc.) come into contact with any of the bicycle's moving parts as this may cause injury or an

etc.) come into contact with any of the bicycle's moving parts as this may cause injury or an accident. It is recommended that child seats are fitted to bicycles with protective mud guards so that the child's feet or hands do not get trapped between the spokes of the wheel. Similarly, it is best to use a seat cover or a seat with internal springs so that children do not trap their fingers in the springs.

- 20 -

- A kickstand is designed to support a non-loaded bicycle: never leave a child on a bicycle supported on a kickstand.
- There are holes on your frame for attaching a bottle-carrier. If there aren't, use add-on attachments, fitted using an elastomer strip available in our range of detachable parts.
- For rotors and pegs, see the assembly instructions supplied.
- You must not add bar-ends, unless the bicycle is sold with them already mounted.
- The use of aerodynamic add-ons on your handlebars can increase braking distance and a loss of stability on bends.
- The maximum authorised weight of baggage and accessories (child seat, panniers, etc) depends on the weight of the user and the maximum authorised weight of the bike. Baggage weight should in no circumstances be greater than the maximum indicated in your accessory's instructions.
- To mount and set the tightening torques for aerodynamic add-ons (such as triathlon handlebars), see specific instructions.
- When adding stabilisers, see the manufacturer's instructions for mounting and adjustment guidance.

#### Compatibility of b'Twin accessories with b'Twin bikes:

Bicycle name	Child seat			gage ers, luggage racks,)
	Front	Rear	Front	Rear
24" (all)	UNAUTHORISED	UNAUTHORISED	AUTHORISED	AUTHORISED
24 " FS	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED
BMX (all)	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED
b'Twin (all)	AUTHORISED	AUTHORISED	AUTHORISED	AUTHORISED
b'Twin 7	AUTHORISED	UNAUTHORISED	AUTHORISED	AUTHORISED
Elops 3, Elops 5	AUTHORISED	AUTHORISED	AUTHORISED	AUTHORISED
Elops city, Elops 4, Elops 6, Riverside	UNAUTHORISED	UNAUTHORISED	AUTHORISED	AUTHORISED
Elops 7E	UNAUTHORISED	AUTHORISED	AUTHORISED	AUTHORISED
Triban Trail	AUTHORISED	AUTHORISED	AUTHORISED	AUTHORISED
Road bike	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED
MTB full suspension	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED
MTB Rigide sport (5 series)	UNAUTHORISED	AUTHORISED	AUTHORISED	AUTHORISED
MTB Rigide Comp	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED	UNAUTHORISED

#### ப் dwin advice

For the safety of our customers, we recommend installation is only carried out by one of our approved technicians.

# **GUARANTEE CHARTER**

#### The guarantee covers:

- Any equipment or manufacturing defect observed by a **b'Twin** workshop team, the replacement of defective parts with standard parts of the same usage, as well as the labour.
- All "b'Twin" branded products are guaranteed for 2 years unless otherwise indicated and in normal and recommended conditions of use.
- This **B'Twin** guarantee presents no obstacle to the application of the legal guarantee against latent defects.

#### Application of the guarantee:

- No knocks: the product must show no signs of damage due to abnormal conditions of use.
- The product must be used in accordance with its operating instructions and regularly serviced by our workshops.
- Original parts have not been replaced by unauthorised parts.

#### The guarantee does not cover:

- Damage engaging the liability of a third party or resulting from an intentional fault.
- Damage resulting from maintenance and use not in accordance with the manufacturer's recommendations or negligence.
- Consumable parts (bulbs, cables and hoses, brake pads, chainrings, chain, rims, cogsets, tyres, inner tubes, derailleur jockey wheels...) and replacement labour costs.
- Where the product is the subject of modifications performed outside our workshops. Original parts replaced with unauthorised parts.
- Damage resulting from fire, lightening, storm, vandalism or unsecured transport.

#### **Duration of the guarantee:**

- 5 years for the frame
- 2 years for parts and labour

# **SAFETY: 10 BICYCLE SAFETY CHECKS**

#### 9/TYRES

- · Check tyre pressure
- Check tyre appearance (not misshapen, tyre correctly positioned in the rim, mounted in the right direction)

#### 10/BRAKES

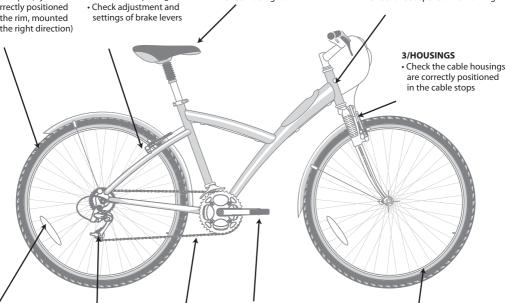
- Check left and right calipers are centred
- Check contact between the rim and brake pads
- Check brake pad tightness

#### 1/SADDLE

- Check it is centred, horizontal and tightened
- Seatpost
- Check it is tight

#### 2/STEERING

- Check the handlebars and stem are centred and tightened
- Check the headset
- Check the suspension is working



#### 8/ACCESSORIES

- Check that the following are present and functioning:
- bell
- reflectors
- lights and others\*

#### 7/DERAILLEURS

- Check the adjustment of the derailleur stops
- Check that the gear shifters are functioning and performing well

#### 6/CHAIN

- Check chain flexibility
- Check the detachable chain link

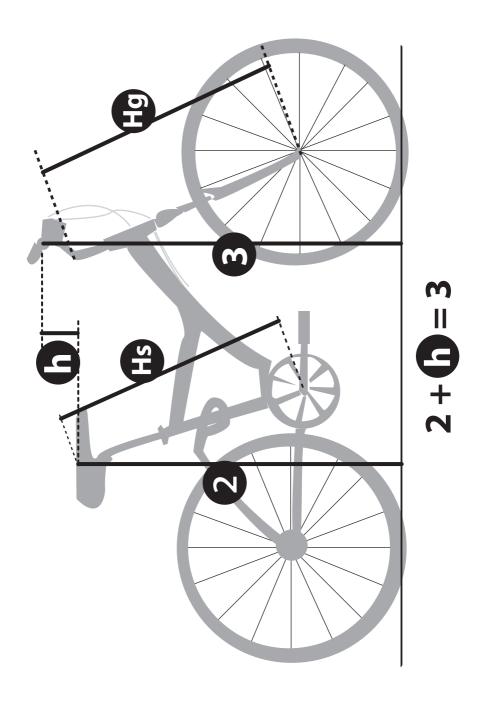
#### 5/CRANKS

- · Tighten the pedals
- Check that the crank screws are tightened
- Check the position of your automatic pedal cleats\*

#### 4/WHEELS

- Check that the wheels are centred and tightened
- Check that the wheels are not buckled

<sup>\*</sup> depending on model (rear shock absorber, mudguard, luggage rack...)



# **City and Country**

Elops					
S(in)	Hs(in)	h(in)			
61,07-62,65	21,87				
63,04-64,62	22,85				
65,01-66,59	23,64				
66,98-68,56	24,63	+4,73			
68,95-70,53	25,41				
70,92-72,5	26,40				
72,89-74,47	27,38				
-	-	-			
-	-	-			

b'Twin					
S(in)	Hs(in)	h(in)			
63,04-64,62	24,43	+2,8			
65,01-66,59	25,41	T2,0			
66,98-68,56	26,20				
68,95-70,53	27,19	+2,6			
70,92-72,89	28,37				
-	-	-			
-	-	-			
-	-	-			
-	-	-			

Triban Trail				
S(in)	Hs(in)	h(in)		
59,1-61,07	23,05	+1,4		
61,07-62,65	24,03			
63,04-64,62	25,02	+1,2		
65,01-66,59	26,00			
66,98-68,56	26,99	.10		
68,95-70,53	27,97	+1,0		
70,92-72,5	28,96			
72,89-74,47	29,94	+0,8		
74,86-76,83	30,93			

Triban Road				
S(in)	Hs(in)	h(in)		
61,07-62,65	24,43	+0,20		
63,04-64,62	25,41	0		
65,01-66,59	26,40	U		
66,98-68,56	27,38	-0,20		
68,95-70,53	28,37	-0,20		
70,92-72,5	29,35	-0,39		
72,89-74,47	30,34	-0,39		
74,86-76,83	31,32	-0,59		
-	-	-		

# **City and Country**

Elops				
S(cm)	Hs(cm)	h(cm)		
155-159	55,5			
160-164	58			
165-169	60			
170-174	62,5	+12		
175-179	64,5			
180-184	67			
185-190	69,5			
-	-	-		
-	-	-		

b'Twin			
S(cm)	Hs(cm)	h(cm)	
160-164	62	+7	
165-169	64,5	+7	
170-174	66,5		
175-179	69	+6,5	
180-185	72		
-	-	-	
-	-	-	
-	-	-	
-	-	-	

Triban Trail				
S(cm)	Hs(cm)	h(cm)		
150-155	58,5	+3,5		
155-159	61			
160-164	63,5	+3		
165-169	66			
170-174	68,5	. 2.5		
175-179	71	+2,5		
180-184	73,5			
185-189	76	+2		
190-195	78,5			

Triban Road			
S(cm)	Hs(cm)	h(cm)	
155-159	62	+0,5	
160-164	64,5	0	
165-169	67	U	
170-174	69,5	-0,5	
175-179	72	-0,3	
180-184	74,5	-1	
185-189	77	-1	
190-195	79,5	-1,5	
-	-	-	

# Road

Sports-Cycle tourism				
S(in)	Hs(in)	h(in)		
59,1-60,68	23,25	-0,99		
61,07-62,65	24,23	-1,18		
63,04-64,62	25,22	-1,38		
65,01-66,59	26,20	-1,58		
66,98-68,56	27,19	-1,77		
68,95-70,53	28,17	-1,97		
70,92-72,6	29,16	-2,17		
72,86-74,47	30,12	-2,36		
74,86-76,44	31,1	-2,56		
76,83-78,80	32,31	-2,96		

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76,83-78,80	32,31	-2,96
Competiti	on-Perf	ormance
S(in)	Hs(in)	h(in)
59,1-60,68	23,64	-2,76
61,07-62,65	24,63	-2,96
63,04-64,62	25,61	-3,15
65,01-66,59	26,60	-3,55
66,98-68,56	27,58	-3,74
68,95-70,53	28,57	-3,94
70,92-72,6	29,55	-4,33
72,89-74,47	30,54	-4,53
74,86-76,44	31,52	-4,73

32,51

-5,12

76,83-78,8

Sports-Cycling		
S(in)	Hs(in)	h(in)
59,1-60,68	23,44	-1,77
61,07-62,65	24,43	-1,97
63,04-64,62	25,41	-2,17
65,01-66,59	26,40	-2,36
66,98-68,56	27,38	-2,76
68,95-70,53	28,37	-2,96
70,92-72,6	29,35	-3,15
72,89-74,47	30,34	-3,35
74,86-76,44	31,32	-3,55
76,83-78,8	32,31	-3,94

# Road

Sports-Cycle tourism		
S(cm)	Hs(cm)	h(cm)
150-154	59	-2,5
155-159	61,5	-3
160-164	64	-3,5
165-169	66,5	-4
170-174	69	-4,5
175-179	71,5	-5
180-184	74	-5,5
185-189	76,5	-6
190-194	79	-6,5
195-200	82	-7,5

<b>Competition-Performance</b>		
S(cm)	Hs(cm)	h(cm)
150-154	60	-7
155-159	62,5	-7,5
160-164	65	-8
165-169	67,5	-9
170-174	70	-9,5
175-179	72,5	-10
180-184	75	-11
185-189	77,5	-11,5
190-194	80	-12
195-200	82,5	-13

Sports-Cycling		
S(cm)	Hs(cm)	h(cm)
150-154	59,5	-4,5
155-159	62	-5
160-164	64,5	-5,5
165-169	67	-6
170-174	69,5	-7
175-179	72	-7,5
180-184	74,5	-8
185-189	77	-8,5
190-194	79,5	-9
195-200	82	-10

# **MTB**

Recreational off-road		
S(in)	Hs(in)	h(in)
59,1-60,68	22,85	+0,59
61,07-62,65	23,84	+0,39
63,04-64,62	24,82	10.30
65,01-66,59	25,81	+0,39
66,98-68,56	26,79	+0,20
68,95-70,53	27,78	
70,92-72,6	28,76	0
72,89-74,47	29,75	U
74,86-76,44	30,73	-0,20
76,83-78,80	31,72	-0,39

76,83-78,80	31,72	-0,39
Perf	orman	ce
S(in)	Hs(in)	h(in)
59,1-60,68	23,44	-2,56
61,07-62,65	24,43	-2,96
63,04-64,62	25,41	-3,15
65,01-66,59	26,40	-3,35
66,98-68,56	27,38	-3,55
68,95-70,53	28,37	-2 7/
70,92-72,6	29,55	-3,74
72,89-74,47	30,54	-3,94
74,86-76,44	31,52	-4,14

32,51

-4,53

76,83-78,80

Off-road sports		
S(in)	Hs(in)	h(in)
59,1-60,68	23,25	-0,99
61,07-62,65	24,23	-1,18
63,04-64,62	25,22	-1,38
65,01-66,59	26,20	-1,58
66,98-68,56	27,19	-1,36
68,95-70,53	28,17	-1,77
70,92-72,6	29,16	-1,97
72,89-74,47	30,14	-2,17
74,86-76,44	31,13	-2,36
76,83-78,80	32,11	-2,30

# MTB

Recreational off-road		
S(cm)	Hs(cm)	h(cm)
150-154	58	+1,5
155-159	60,5	+1,5
160-164	63	+1
165-169	65,5	+1
170-174	68	.0.5
175-179	70,5	+0,5
180-184	73	0
185-189	75,5	
190-194	78	-0,5
195-200	80,5	-1

Off-road sports		
S(cm)	Hs(cm)	h(cm)
150-154	59	-2,5
155-159	61,5	-3
160-164	64	-3,5
165-169	66,5	-4
170-174	69	<del>-4</del>
175-179	71,5	-4,5
180-184	74	-5
185-189	76,5	-5,5
190-194	79	-6
195-200	81,5	-0

Performance		
S(cm)	Hs(cm)	h(cm)
150-154	59,5	-6,5
155-159	62	-7,5
160-164	64,5	-8
165-169	67	-8,5
170-174	69,5	-9
175-179	72	0.5
180-184	75	-9,5
185-189	77,5	-10
190-194	80	-10,5
195-200	82,5	-11,5

14"		
S(in)	Hs(in)	hg(in)
35,46-37,04		18,97
37,46-39,01	12,61	19,31
39,4-41,37		19,70
16"		
41,37-42,95		19,11
73,34-44,92	14,78	19,31
45,31-47,28		19,50

20"					
others					
S(in)	Hs(in)	hg(in)			
47,28-48,86	16,55	20,09			
49,25-50,83		20,29			
51,22-53,19		20,49			
4x4					
47,28-48,86					
49,25-50,83	16,55	22,26			
51,22-53,19					
FS					
47,28-48,86	17,73	22,85			
49,25-50,83		23,25			
51,22-53,19		23,64			

14"			
S(cm)	Hs(cm)	hg(cm)	
90-94	32	48	
95-99		49	
100-105		50	
16"			
105-109	37,5	48,5	
110-114		49	
115-120		49	

20"				
others				
S(cm)	Hs(cm)	hg(cm)		
120-124		51		
125-129	42	51,5		
130-135		52		
4x4				
120-124				
125-129	42	56,5		
130-135				
FS				
120-124		58		
125-129	45	59		
130-135		60		

24"				
RR 5.0 Girl				
S(in)	Hs(in)	hg(in)		
53,19-54,77	21,28	24,82		
55,16-56,74		25,22		
57,13-61,07				
RR 5.11				
53,19-54,77	21,28	24,03		
55,16-56,74				
57,13-61,07		24,43		
b'Twin Flower				
53,19-54,77	21,27	22,46		
55,16-56,74		22,66		
57,13-61,07		22,85		

24"				
RR 5.0 Girl				
S(cm)	Hs(cm)	hg(cm)		
135-139	54	63		
140-144				
145-155		64		
RR 5.11				
135-139	54	<b>61</b>		
140-144		61		
145-155		62		
b'Twin Flower				
135-139	54	57		
140-144		57,5		
145-155		58		

## 合格品

Importado para Brasil por IGUASPORT Ltda. CNPJ: 02.314.041/0001-88

TURKSPORT Spor Urünleri Sanayi ve Ticaret Ltd.Şti Mega Center C 36 Blok D: 374 Bayrampaşa 34235 Istanbul - Turkey

Импортер: ООО «Октоблу», 141031, Россия, Московская область, Мытищинский район, МКАД 84-й км., ТПЗ «Алтуфьево», владение 3, строение 3

16": GB 14746 - ≥ 20": GB 3565

Réf. Pack: 1213.138



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